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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,788	04/13/2006	Takashi Ochi	159-99	8747
23117 7590 03/26/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
CALANDRA, ANTHONY J				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,788

Applicant(s)

OCHI ET AL.

Examiner

ANTHONY J. CALANDRA

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4128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 4/13/2006 and 12/29/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Office Action

1. The claims dated 12/29/2005 have been entered and fully considered.
2. Claims 1-4 are currently pending.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5, 6, 21, 22, and 23 of copending Application No.11/628961. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application process claims a paper made from a high brightness pulp. The product of the copending application is indistinguishable from the product of the instant application. Claims 21, 22, and 23 of the copending application claim a pulp and the paper sheet product which has been bleached and brightened. *The patentability of a product does not depend on its method of production. If the product in the*

product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process [see e.g. MPEP 2113]. Further, it appears that the product is even made by the same process steps including irradiating pulp with UV light while treating with reducing agents as claimed in copending claims 1, 5, and 6.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by 5,360,515, FRANCIS et al.

As for claims 1 and 2, FRANCIS et al. discloses that a paper can be made using 2,5-dihydroxydioxane [see e.g. abstract]. 2,5-dihydroxydioxane works as hydrogen donating compound [see e.g. column 6 lines 1-10]. A hydrogen donating compound is by definition also a reducing compound. FRANCIS et al. states that the treated pulps are mechanical pulps, such as semi-chemical, TMP, and PGW [see e.g. column 7 example 1 and 2, and column 5 lines 15-20]. The 2,5 dihydroxydioxane can be added to the pulp prior to sheet formation [see e.g. column 3 lines 13-16] or can be applied directly to the paper by spraying [see e.g. column 3 lines 8-12]. The sheet is then irradiated with UV light (300 nm) [see e.g. column 7 lines 17-25]. In addition

to UV light, examiner further notes that during the paper making process the sheet would also inherently be exposed/irradiated with visible light as the paper is made in the paper machine.

Claim Rejections - 35 USC § 102/103

7. Claims 3-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent 5,360,515, FRANCIS et al.

The claims as presented are product by process claims [see e.g. MPEP 2113]. Therefore once a prior art product is found to be substantially identical to instant claim product a rejection under 102/103 may be made.

FRANCIS et al. discloses that a paper can be made using 2,5-dihydroxydioxane [see e.g. abstract]. 2-5-dihydroxydioxane works as hydrogen donating compound [see e.g. column 6 lines 1-10]. A hydrogen donating compound is by definition also a reducing compound. FRANCIS et al. states that the treated pulps are mechanical pulps, such as semi-chemical, TMP, and PGW [see e.g. column 7 example 1 and 2, and column 5 lines 15-20]. The 2-5 dihydroxydioxane can be added to the pulp prior to sheet formation [see e.g. column 3 lines 13-16] and can be applied directly to the paper by spraying [see e.g. column 3 lines 8-12]. The sheet is then irradiated with UV light (300 nm) [see e.g. column 7 lines 17-25]. In addition to UV light, examiner further notes that during the paper making process the sheet would also inherently be exposed/irradiated with visible light as the paper is made in the paper machine. *A prima facie* case can be made that the paper made by the process of FRANCIS et al. has the same properties as a paper made by the process of instant claims 3 and 4 where the reducing agent is sodium borohydride.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 5,360,515, FRANCIS et al. in view of Japanese Publication JP 2002-0088671, hereinafter JP '671.

As for claims 3 and 4 FRANCIS et al. disclose a paper product made using a hydrogen donating reducing compound 2-5 dihydroxydioxane. FRANCIS et al. states that the treated pulps are mechanical pulps, such as semi-chemical, TMP, and PGW [see e.g. column 7 example 1 and 2, and column 5 lines 15-20]. The 2-5 dihydroxydioxane can be added to the pulp prior to sheet formation [see e.g. column 3 lines 13-16] and can be applied directly to the paper by spraying [see e.g. column 3 lines 8-12]. The sheet is then irradiated with UV light (300 nm) [see e.g. column 7 lines 17-25]. In addition to UV light, examiner further notes that during the paper making process the sheet would also inherently be exposed/irradiated with visible light as the paper is made in the paper machine. FRANCIS et al. does not disclose substituting sodium borohydride for 2-5 dihydroxydioxane reducing/hydrogen donating agent in the process for making the paper product.

JP '671 discloses that pulp can be treated by subjecting pulp to a reducing agent and irradiating it with ultraviolet and visible light [see e.g. claim 1]. JP '671 further discloses the reducing agent as boron hydride, or borohydride [see e.g. claim 2 and paragraph 0010]. JP '671

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states that the metal can be any metal [see e.g. paragraph 0010], and sodium is a common metal ion used with sodium borohydride. At the time of the invention it would have been obvious to substitute the sodium borohydride reducing compound of JP '671 for the 2-5 dihydroxydioxane reducing compound of FRANCIS et al. A person of ordinary skill in the art would be motivated by JP '671 who states that any common reducing compound can be used [see e.g. paragraph 0010], and the processes of FRANCIS et al. and JP '671 are similar and both use reducing compounds. Further, it is *prima facie* obvious to substitute one known element such as a reducing compound for another known element such as an alternative reducing compound. A person of ordinary skill in the art would expect that both reducing compounds would act similarly.

Conclusions

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Friday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art Unit
1791

AJC